

Framework for Infrastructure Regulation

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Preface

A new form of governance, independent regulation began to be applied to the Indian infrastructure sectors in the late 1990s. By virtue of its novelty, the concept entails numerous challenges for the regulators and the stakeholders, including the government. In February 1999, TERI organized *Transition to a liberalized environment: experiences and issues in regulation*, a high-level conference where renowned experts discussed critical issues on the subject, shared national and international experiences, and formulated several recommendations. Among these was the suggestion that TERI prepare a white paper on regulation.

Accordingly, in consultation with eminent regulators and other stakeholders from across the globe, TERI prepared the *Framework for Infrastructure Regulation*. The paper was presented on 18 July 2000 to Mr Yashwant Sinha, the Hon'ble Minister for Finance, Government of India. It assesses the need for independent regulation in the infrastructure sectors; traces regulatory developments in India; discusses the parameters for sound regulation; and finally, provides recommendations for better governance by independent regulation, applicable not only to India but to all South Asian countries embarking upon similar regulatory initiatives.

We hope and expect that the paper will be useful to policy makers, regulators, academics, and concerned citizens in carrying forward the agenda of regulatory reforms for improving consumer welfare and enhancing the efficiency of sectors critical to country's development.



R K Pachauri

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Need for regulatory reforms in India

Over the last few decades, natural monopolies have been producing and delivering infrastructure services worldwide. These were established and evolved in the belief that monopolies enjoy economies of scale in the delivery of services. Since the average unit cost of the delivery of services typically declines as output increases, it makes economic sense for a single firm to supply the services in the market. However, the absence of competition gives a monopoly supplier the opportunity to set prices without providing commensurate value for money. In certain circumstances, the service provider may also conduct its business with little regard to quality and protection of consumer interests. Further, the absence of competition leads to operational inefficiencies, poor quality of services, and inefficient allocation of resources.

A reassessment of the performance of the infrastructure sectors in many countries led to the belief that market forces and competition can improve the production and delivery of services without affecting the economies of scale. Certain pragmatic and non-ideology-related factors (Ministry of Finance 1996) also hastened the introduction of privatization and deregulation of infrastructure services in many countries. First, most countries looked for additional resources for financing the infrastructure sectors because of the large investment required. Second, the government's inability to supply infrastructure services efficiently and in a commercially sound manner was recognized. Third, providing efficient and cost-effective infrastructure services became necessary for countries if they were to compete globally. Fourth, the integration of global financial markets made it possible to raise the capital for infrastructure from overseas. Finally, technological breakthroughs altered the traditional concept of managing infrastructure services through monopolies, and it became possible to unbundle services and to introduce competition. For instance, competition in generation and distribution of electricity supply is now well established in the electricity sector in several countries.

However, despite possibilities of such competition, the market structure in infrastructure services retains a monopolistic element in most countries. Governments, therefore, have to continue to protect consumer interests by acting as

surrogate for a marketplace. At the same time, they have to provide a level playing field and conditions for fair returns to new investors. Further, the privatization process can lead to high transaction costs. These have to be mitigated. Governments are also less equipped to respond to the complex and dynamic environment changes in infrastructure sectors as they do not have the requisite expertise. It also becomes necessary to develop a framework for private and public partnership enabling efficient delivery of infrastructure services. With governments in many countries continuing to be stakeholders, it was natural that there should be an independent and outside regulator, remaining equidistant from all service providers and stakeholders, including the government. These considerations provide a sound rationale for a new type of regulation and governance in most countries. Several benefits are likely to accrue out of a 'rational and even-handed' regulation, which include building consumer trust and confidence; establishing better avenues for communication between the regulated utility and stakeholders (most often, it is the regulatory agency that fosters such dialogue through technical conferences, symposia, open hearings, etc.); ensuring a fair rate of return on the utility and just and reasonable rates for the consumer; encouraging better standards for delivery of services; and letting the utility and other stakeholders assist in developing them.

The various compulsions that led to the introduction of independent regulation worldwide applied equally to India. Till recently, governance in the infrastructure sector was based on the beliefs that only the public sector can provide the best services; that entry of the private sector should be restricted, if not altogether prevented; that public sector agencies serve the public interest and governments' compulsions best; and that the Westminster style of accountability of the public sector is adequate to ensure efficiency and protect the interests of consumers. There was no attempt to separate the role of the government as a service provider and as a policy maker. Further, sufficient importance was not given to considerations of efficiency, productivity, and consumer interests. In the electricity sector financial mismanagement was widespread in SEBs (state electricity boards); there were shortages of energy and peak power; the quality of service was poor; the high transmission and distribution losses were

not sustainable; electricity prices did not reflect the costs of production and supply; and there were huge cross-subsidies. In the telecom sector, the tele-density (i.e. the number of telephone lines per 100 people) is less than one in rural areas, and less than two across the country as a whole, compared to the world average of over ten. Though the telephone network grew at an annual average rate of 16.5% between 1991 and 1997, the estimated waiting list for telephones on 31 March 1998 was 2.7 million. Inadequate transport networks have led to higher transportation costs, which have adversely affected the international competitiveness of the Indian economy. In the ports sector, the mismatch between the existing capacity and the demand for traffic resulted in berthing delays, longer ship turnaround times, and low productivity of labour and equipment. Thus, the need for additional investment to augment capacity, to bring changes in the style of management to improve efficiencies, and to improve quality and reduction in costs was recognized. New framework for public-private partnership was thus called for to attract desired investments and introduce new managerial approaches.

Due to rapidly changing and emerging technologies, it is now possible to introduce competition in many segments of the infrastructure sectors. Therefore, not all infrastructure sectors need be regulated and even if a sector is regulated, not all its segments need to be regulated. It is probable that segments currently subjected to tight-fisted regulation may require light-handed regulation with the progressive arrival of competition into the segment. In other words, although regulation is essentially a means of preventing worst excesses of monopoly, it is not a substitute for competition. It is a means of holding the fort until competition arrives, and is thus an interim exercise.

Emerging regulatory reforms in India

Till recently, publicly owned government monopolies operated and regulated the infrastructure services under various laws. In the telecom sector, the Department of Telecommunication was the regulator under the Indian Telegraphic Act, 1885 and the India Wireless Telegraphic Act, 1933.

In the power sector, the SEBs and the CEA (Central Electricity Authority) were the regulators under the Electricity Supply Act, 1948 and the Indian Electricity Act, 1910.

In the port sector, the central government, the Directorate General (Shipping), and the state governments were the regulators under the Indian Ports Act, 1908; the Major Port Trusts Act, 1963; the Merchant Shipping Act, 1958; and the Dock Workers (Safety, Health and Welfare) Act, 1986.

In the oil sector, the regulators are empowered under the Oilfields (Regulation and Development) Act, 1948; the Territorial Waters, Continental Shelf, Exclusive Economic Zones and Other Maritime Zones Act, 1976; the Petroleum and Natural Gas Rules, 1959; the Petroleum Pipelines Act, 1962; the Petroleum Act, 1934; and the Oil Industry Development Act, 1974.

In the coal sector, the central government is the regulator and it operates under the Mines and Minerals Regulations and Development Act, 1957; the Coal Bearing Areas (Acquisitions and Development) Act, 1957; the Mineral Concession Rules, 1960; the Mines Act, 1952; the Mines Rules, 1955; the Coal Mines Regulation Act, 1957; and the Coal Mines (Conservation and Development) Rules, 1975.

These acts, largely intended to provide government control over the development and operation of the sectors, are outmoded and incapable of either addressing the evolving trends in various sectors or attracting private investment.

With the introduction of reforms and liberalization of the Indian economy in 1991/92, the power and telecom sectors were gradually thrown open to private investment and competition. In 1991, the telecom sector was opened up with private investment being permitted in the manufacture of telephone equipment. Value-added services were thrown open for private investment in 1992 and two years later the National Telecom Policy reiterated the government's commitment to further liberalize the sector. The guidelines of 1991 allowed the entry of the private sector in the generation of power, and this was followed by several other initiatives to attract and facilitate private investment in the power sector. Private sector participation by way of leasing port facilities was permitted in 1994 and investment in the creation of new facilities in the existing ports or establishment of new ports in 1996. However, the need to regulate the entry objectively, and to establish a regulatory framework based on which private investment could be forthcoming, was not fully

understood. Therefore, the regulatory reforms were not contemplated as a part of the initial reform process in such sectors as telecom and power and these were brought in much after the introduction of the sector reforms process. In the port sector, a decision to set up a tariff regulatory authority was announced as a part of the policy statement in 1996, although it was implemented only in 1997. Even when the regulatory structure was put in place, it was done in an ad hoc manner, without fully understanding its implications. The Government of India did not adopt a common approach to regulation, and the design of framework was largely left to the concerned ministries.

Regulatory reforms in the infrastructure sector have been carried out through many acts. The TRAI (Telecom Regulatory Authority of India) Act, 1997 created a telecom regulator, namely TRAI which was subsequently reconstituted under the TRAI (Amendment) Act, 2000. The ERC (Electricity Regulatory Commissions) Act, 1998 created the CERC (Central Electricity Regulatory Commission) in the central sector and provided for the creation of SERCs (state electricity regulatory commissions) through an enabling provision. While some states (Orissa, Haryana, Andhra Pradesh, Uttar Pradesh, and Karnataka) have enacted their own legislation, others (West Bengal, Madhya Pradesh, and Gujarat) have recently positioned their electricity regulators through the 1998 Central legislation route. The PL (Port Laws) (Amendment) Act, 1997 created TAMP (Tariff Authority for Major Ports) in the port sector.

Issues/recommendations

A careful analysis of the regulatory legislation in different sectors reveals that the Government of India did not adopt a common approach to regulation. The acts differ widely with reference to the status of the regulator, the manner in which the regulator is constituted, scope and authority, etc. These differences are tabulated in Annexes B and C, and are discussed in detail below. In respect of each issue, the discussion is followed by what (in terms of the best practices prevalent within India and elsewhere) ought to be the provisions in model regulatory acts.

Scope

The scope, or functions, of regulation differs widely across various sectors as well as within a sector. Whereas TRAI has been specifically mandated to regulate the telecom sector as a whole and recommend the timing of entry of players (licensing conditions, modification of licence, spectrum management, etc.), the CERC was essentially set up to regulate tariffs for central generating agencies and for interstate transmission of power. TAMP, as the name suggests, is only a tariff regulatory authority on the lines of a tariff commission, and is not a regulator of port activities. Again, TRAI has been specifically mandated to monitor quality of service with a view to protect the interests of the consumers whereas in the case of the CERC, these issues have been relegated to a CAC (Central Advisory Committee) without clearly indicating what the value of the CAC's advice would be and how it would be heeded. This also illustrates ambiguities that arise from establishing different centres of responsibilities in the regulatory bodies. In the case of TAMP, these issues have not been addressed at all. In contrast, the scope of the state-specific legislation (e.g. in the electricity sector of Orissa or Haryana) is more focused and exhaustive—the OERC (Orissa Electricity Reforms Commission) can issue a licence, regulate the working of the licensee, promote competition, set tariff, monitor quality, and protect consumer interests.

But India is not an isolated case. Worldwide there is no unanimity as to what the scope of sound regulation should be. Usually, the considerations that govern the subject (Smith 1997a) are (1) whether the matter in question could be determined on political considerations or technical competence, or both (For example, FERC [Federal Energy Regulatory Commission] is both a technical and a political body. Five political nominees are appointed by the President of the US and the commission has a technical staff consisting of attorneys, tariff and rate experts, etc.), (2) who has the expertise to perform the functions with the attendant economics, and (3) the degree of confidence the policy maker, as well as the users/public, has in the regulatory agency at a given point of time.

Based on the above criteria, the global consensus is that a regulator must have functions relating to tariff control,

checking quality of service and monitoring compliance, and authority to settle disputes. The executive or the policy maker may retain jurisdiction over other issues such as the process of privatization, sector restructuring, and subsidies and taxation. There is no unanimity as to who should deal with licensing issues or matters related to concessions. In general, policy-making could be the exclusive area of the government whereas policy implementation could be left to the regulator. (FERC's role includes setting policy. It recently issued policy statements on gas pipeline certificates. It has a policy statement on mergers, transmission pricing, etc. The US Congress also sets energy policy through legislation and if so directed, FERC implements the new legislation.) In addition, such other factors as the stage of industrial development of the economy, institutional capabilities in the country, and the regulatory objectives a government wishes to pursue determine the scope of regulation.

In sum, in a typical statutory regulation, a regulatory authority should have three distinct functions.

- 1 Its core function should include tariff regulation; checking quality of service and monitoring compliance; monitoring the utility's financial viability; adjudication of disputes between operators, between licensor and operators, and between the consumers and operators; consumer protection; and enforcement of licensing conditions.
- 2 The regulator should be allowed to issue licences. Wherever this is not allowed, the regulator should be allowed to make recommendations to the policy makers in such areas as determining the terms and conditions of licence, and modification, if any, in those terms and conditions. In the event the regulator's recommendation is rejected by the government, the latter should record the same in writing.
- 3 Its advisory role should include providing information to the government and advising the relevant ministry on issues of importance or whenever the regulator's advice is requested. The role of a regulator is bound to change once the sector, or various segments in the sector, undergoes changes from a monopolistic to a competitive structure. For example, in a competitive market, the tariff setting function of a regulator may become 'light' or be 'forbearing'. Thus, there is a need to delineate the regulator's role given the degree of competitiveness in the sector.

These roles are suggested where the sector is monopolistic and these could be 'loosened' over the path of transition of the economy from state of control to liberalized competition.

Autonomy

A regulator should enjoy some degree of freedom to effectively discharge its duties under the statute. This independence, however, cannot be absolute—it must be subject to the laws of the land and the policy of the government. The survival of the regulator should not be dependent upon the executive—its autonomy has to be guaranteed by law.

Some parameters that have been considered essential worldwide to ensure the autonomy of a regulator are transparent selection process; well laid-out qualifying and disqualifying criteria; a prescribed tenure; capability of the regulator to access expertise without seeking the government's approval; authority to incur expenditure without the government's prior approval; and criteria for removal.

Different approaches to the issue of an effective selection process are being adopted globally. The executive and the legislature jointly decide the appointment of regulators in countries like the US and Argentina. The latter also follows a 'committee approach' for the preliminary scrutiny of candidates whose applications are received through an open advertisement process. In the UK, the executive selects a regulator. In India, in the power sector, a committee prepares a panel of names for consideration by the executive. In the telecom and port sectors, the executive appoints the regulator on its own. Ideally, a regulator should be chosen through a transparent process for attracting the best available expertise in the field. It is suggested that the selection of a regulator be made through specific steps, e.g. a preliminary receipt of applications through open advertisement, scrutiny of the applications and preparation of a panel of names by a committee, and, finally, the appointment of the regulator by the executive.

On the question of the constitution of a regulatory authority, many countries entrust the decision-making authority to a commission of three to five members while others prefer a single individual. Each system has its advantages and disadvantages. There is a trade-off between the ability of a single regulator to make quick decisions and conversely the potential to abuse entrusted authority. The specifics of stakeholders

and the political dynamics in a country may reveal the preferred structure.

The common qualifications for selecting the members of a regulatory authority should include sufficient experience in economics, finance, law, administration, or industry. In a multi-member authority, not more than one member should be drawn from any one category. Similarly, criteria for disqualification should include an existing interest in the regulated sectors, which will avoid a conflict of interest between the regulator and the stakeholders. Further, commercial employment in the relevant industry should be prohibited once a regulator completes his or her tenure in the regulatory authority. In the US, there are no restrictions on regulators getting employed in energy law practice, regulated utility, energy trade associations, etc. However, there are restrictions against their practice before the regulatory commission where they had served as members. In fact, the US industry is keen to hire former regulators to help them develop policies and comply with regulation more effectively.

In most countries, members of a regulatory authority enjoy fixed but staggered tenures. However, the issue of whether the regulator should be eligible for reappointment has been dealt with differently in different countries. For instance, in the US, Canada, Argentina, and Israel, the regulators are eligible for reappointment. In India, many statutes are silent on the issue. Considering that the expertise gained during the tenure in the authority could be effectively utilized further, it is felt that the members could be made eligible for reappointment through the prescribed selection process along with other candidates.

The tenure of members of the regulatory authorities in the electricity and ports sectors in India is five years, while it is three years in the telecom sector. In some of the state electricity authorities such as in Orissa or Haryana the tenure of the initial three members had been staggered for a varying period of three, four, and five years respectively so as to avoid the retirement of all members at the same time and to ensure continuity in the functioning of the commission. However, the upper age limits vary widely: it is 65 years in the case of chairperson in the CERC, while it is 62 years for its members. The artificial boundary between members and the chairperson as regards the age limit should be removed and made uniform for all.

In the event of a regulator being required to be removed from the office on stated grounds, the process of such removal should be transparent. While the government should have the authority to remove a regulator, it should do so on advice from an independent authority such as the Supreme Court / Union Public Service Commission for central regulators and high court / state public service commission for state regulators.

Annexes B and C also show the degree of financial and organizational (in)dependence of various regulatory authorities. For instance, TRAI has been allowed to levy fees and charges and to set up its own fund whereas TAMP and CERC are wholly dependent upon the government for funding, although CERC funds are charged on the Consolidated Fund of India, but not voted. The CERC also requires the government's approval for the creation of posts. In the case of TAMP, although this requirement has not been specifically mentioned, it is evident that the government's approval is necessary as the government has in any case to approve TAMP's budget. Further, in state-specific electricity laws, as in Orissa, the government's approval is required for the creation of posts, although the expenses can be charged to the Consolidated Fund of the state.

The autonomous regulators should not have any constraints in hiring the best experts of their choice, and they should be able to hire that expertise independent of the government's approval. The salary structure of such staff should be determined by the regulator in order to attract the best expertise; it should not be subject to government control either.

This issue is closely linked to the kind of financial autonomy given to the regulatory authority. There are two distinct methods available for dealing with the funding mechanism of a regulator, namely (1) earmarked funding and (2) levy from the consumers indirectly through regulated utilities. The former guarantees that the regulator has a stable funding source. In the latter case, the policy makers often set a cap on the allowable levy of fees by the regulators. For instance, in Argentina, the cap on the levy of fees is 0.5% on sales tax on the telecommunication segment and 2.67% of the consumer bill in the case of a water regulator. Argentina's electricity regulator publishes a draft budget in advance, enabling a scrutiny by the utilities before the imposition of these charges, usually known as the inspection and supervisory

charges. In India, since the concept of funding a regulator through a charged budget has not eliminated the interference of the executive, it is suggested that there should be a 'Regulatory Fund' for each regulatory authority. The fund can have as a source grants from the government in the initial stage and fees thereafter. There should be a cap on the levy fees, which may be fixed by the government.

The PL (Amendment) Act, 1997 has a provision under which TAMP can be superseded. Although the circumstances in which the Authority can be superseded have been spelt out, the decision to supersede is at the discretion of the government, which could be a threat to the regulator's autonomy. This provision should be repealed.

Accountability

An autonomous regulator must be accountable for its actions. It should balance the interests of stakeholders in a fair manner and not protect the interests of certain groups to the detriment of others. Clear rules, an open regulatory process, and reasoned decisions alone can ensure this. The regulatory process must incorporate some crucial steps to ensure accountability, e.g. the stakeholders must be given the opportunity to present their views; the regulatory decisions must be published, and the reasons for such decisions clearly stated; and it should be possible to appeal against the regulator's decisions. This would ensure that all potential stakeholders are aware of the regulatory process and have an opportunity to present their views freely and frankly.

Recognizing this, the regulatory legislation in India has made provisions to guarantee such transparency. In the electricity and telecom sectors, it has been mandated that the regulators shall ensure transparency while exercising their powers and discharging functions. In the case of TAMP, no specific provisions regarding transparency exist in the legislation. However, TAMP has attempted to introduce transparency through guidelines under the Transaction of Business Regulations, 1998.

Regarding the nature of the decision-making process, two distinct approaches are being followed in the regulations. Whereas the approach is quasi-judicial in all the proceedings of the electricity regulators, the process is consultative in the case of the telecom regulator. It is felt that the consultative

process is preferable to formal hearings in as much as it provides for a comprehensive discussion of issues with different stakeholders, and is therefore less costly and less time-consuming. In formal hearings, which are based on written submissions, there is a danger that the discussion may become adversarial rather than consultative. However, there are some areas such as dispute settlements and award of compensation to consumers that necessarily have to be resolved through a quasi-judicial process. There is, therefore, a need to demarcate the areas where the regulation should follow the process of hearings in decision-making; the areas should be restricted to those where the decision of the regulator requires imposition of a penalty or involves an award in favour of one party, and, therefore, judiciable. In other cases, the consultative processes should be encouraged. In fact, either of the two processes will ensure that the regulator's 'rule formulation' will be 'less interpretable' subsequently.

Other measures that ensure such accountability include the following (Smith 1997b). An appeal against a decision must be to an independent body and must be on a question of law. The appellate authority should not deal with the substance of the regulatory decisions unless evidence presented, or the procedure adopted, shows that regulatory decisions are unreasonable.

The appellate authority could be the high court or a tribunal with quasi-judicial powers. It is also possible to have a common appellate authority for a group of regulators, like in the case of the Registrar General of Australia, rather than having separate appellate authority for each regulator. Further, the route of PIL (public interest litigation) needs to be examined and it has to be ensured that individuals and groups should not take advantage of such facility to stall a commission's orders. It is suggested that any PIL should lie only in the Supreme Court.

In addition, there should be a legislative scrutiny of the regulator's activities, as well as external scrutiny by, say, the CAG (Comptroller and Auditor General) of the regulator's accounts and expenses. However, the extent of legislative scrutiny has to be clarified. The annual report of the regulatory activities should be tabled before the legislature. The legislature should refrain from any substantive discussion on regulatory decisions which have been arrived at through a

transparent, consultative process. Similarly, it should be ensured that external scrutiny by the CAG be restricted to accounts and expenses incurred by the regulator.

Powers

In areas where issues are required to be resolved through adjudication, the regulator should be deemed to be a civil court and a quasi-judicial authority. It should have the authority to summon and enforce attendance, require disclosure and production of documents, receive evidence on affidavit, review its decisions, etc. The regulator must also have the powers to call for information and conduct investigations. It should have sufficient powers to prosecute for the contempt of the lawful authority of a public servant, for offences against public justice, and for offences relating to documents given as evidence.

Whereas the OERC is a civil court, the CERC is not, although it is a quasi-judicial body with the powers of a civil court for certain limited purposes. TAMP and TRAI do not have any of these powers. The OERC has been given some powers under section 195, Chapter XXVI of the Code of Criminal Procedure, 1973 whereas the powers of CERC have been restricted to those under sections 345 and 346 of Chapter XXVI. Thus, the OERC has full powers to prosecute for the contempt of the lawful authority of a public servant, for offences against public justice, and for offences relating to documents given as evidence, whereas the CERC can only initiate summary proceedings in the matter of contempt. Currently, TRAI does not enjoy these powers nor can TAMP call for attendance, etc. Again, as regards penal provisions for non-compliance of directions, the provisions under the TRAI Act, 1997 are more rigorous than those under the ERC Act, 1998 whereas there are no such provisions in the case of TAMP. It is suggested that the regulator should have all the powers under Chapter XXVI of the Code of Criminal Procedure, 1973.

A regulator being a quasi-judicial body, it should have the powers to pass interim as well as final orders. In the first instance, it may make an interim order and may reserve its decision pending further proceedings. The power of issuing interim orders is available to the OERC but not to the CERC, TRAI, or TAMP. The orders and directions of a

regulator must be enforceable in a court of law. In addition, every order passed by the authority should be deemed to be the decree of a civil court and be executable as such. If the directions or orders of the authority are violated, the violation should be adequately punishable with suitable fines. The regulatory legislation has also recognized this, but the degree of penalties varies across the sectors.

Relation between central and state regulators

It is noteworthy that in a federal polity like India, the mechanism for interaction between the central and state regulatory authorities has not been structured in regulatory legislation. While the ERC Act, 1998 has a few provisions, which are more in the nature of guidelines, to set up various SERCs, the act does not address the relationship between the central and the state bodies in dealing with interstate transmissions issues. TAMP's role has been restricted to major ports, without any thought being given to the need for regulation of tariff in minor or private ports and the implication of tariff regulation in one category of ports without any regulation in the other category.

In sectors such as power, ports, roads, or where the jurisdiction of the centre and the state overlap, the role of the regulators should be well defined and complementary. The overlapping areas of operation should be identified and spelt out in the regulation as far as possible and not be open to alternative interpretation. For instance, TAMP's role has been restricted to tariff regulation in major ports, but as the scope of regulation widens to cover conservancy and other functions, its relationship with the regulators of the state ports has to be defined clearly. Similarly, interstate transmission issues should be the concern of both central and state electricity regulators. Various concepts such as a regulatory alliance, cooperation in such shared areas as transmission service, or the use of joint boards on a specific topic (as in the US in the telecom sector) may be examined to resolve the overlapping issues between the central and state regulators. In addition, with the emergence of many state regulators, the need for sectoral coordination at the national level may also be examined.

Relationship with the government

Since statutory regulation is a fairly recent concept in India, the government's approach to regulation has naturally been cautious. It is based on the notion that a regulator, while being autonomous, should be accountable for its actions and should also be subject to the policy of the government. Since the government is elected by the people, and is responsible to the Parliament/legislature, it is the best judge of public interest and is best equipped to lay down public policy. Governments, therefore, should retain the power to issue policy directions as appropriate to the regulators. Legislative provisions have been incorporated accordingly in all the central regulatory acts, namely the TRAI Act, 1997 read with TRAI (Amendment) Act, 2000 (section 25); the PL (Amendment) Act, 1997 (section 25); and the ERC Act, 1998 (section 38). The electricity reforms acts enacted so far in Orissa, Haryana, Uttar Pradesh, Andhra Pradesh, and Karnataka also contain provisions to this effect.

Public policy has not been clearly defined. At best, public policy is valued to meet the public good and public interest, terms that are imprecise and capable of varying interpretations. The courts have also been extremely reluctant to define public policy narrowly, and have generally taken the view that it is for the government or the administration to decide what constitutes a public policy. It is, therefore, not unreasonable that governments should have retained the right to determine policy and issue such directives as are necessary to the regulators to convey that policy. However, there are limits, both in law and in equity, as to the extent to which governments can alter public policy or issue policy directives to the regulators. Policy directives to a regulator should conform to the objectives of the relevant regulatory legislation. Governments must also take extreme care to ensure that these directives relate only to policy and not to administrative and technical matters and that any change in public policy stands the test of 'legitimate expectation', both in a procedural and substantive sense, and the concept of 'promissory estoppel'. There are other restrictions as well: policy changes, for example, should not violate the principles of natural justice or affect the fundamental rights of citizens. Thus, while the regulator is bound by the public policy of a government, the formulation of public

policy has to be within the confines of the limitations set above.

Since the definition of a public policy is imprecise, and what constitutes public policy can be contested, some of the state electricity reforms acts have provided for a mechanism to refer to a third party the question whether a directive issued is a policy directive or not. The Orissa Electricity Reforms Act, 1995 provides for a reference to the CEA, while the Andhra Pradesh Reforms Act, 1998 refers it to a retired judge of the Supreme Court. It would be inadvisable for a non-judicial entity like the CEA to decide whether a matter is a policy matter or not when there has been extensive judicial consideration of this issue in the past, and the highest court in the land has been reluctant to question with any precision the government's right to decide on policy and define policy. Deciding whether a directive is a policy matter or not is essentially a judicial, not technical, decision; hence it has to be left to the judiciary. Besides, such a reference to a third party nullifies the power and role of the high courts and the Supreme Court, as envisaged in our legal system. It also takes away the court's jurisdiction to strike down a policy directive if it is violative of law. In sum, the provision, if resorted to, can only lead to protracted litigation and delays; hence such provisions in the existing legislation are best deleted.

Equity also demands that while governments can issue policy directives, they must invariably consult the regulators before such directives are issued. In fact, this has been made legally binding in the telecom and ports regulatory acts although consultation required is only 'as far as practicable'. In the ERC Act, 1998, no provision has been made for consultation. Eventually, as the process of regulation matures in India, as it has in the UK, there would be a close consultation between the government and regulators, and there should be no need to issue directives. But as long as the need to issue policy directives remains, it is essential that the regulator be consulted – not only as far as practicable – and its views respected because the regulator is closest to the environment and may be the first to recognize a true and urgent need to alter or shift directions to meet the needs of a changing marketplace or regulatory environment. It is equally important that the directives issued, and the reasons behind them, be made public.

It should be noted that however enlightened the government and however comprehensive its prescriptions for installing regulatory mechanisms, there will always be doubts and ambiguities. It will be a good practice for the government to remove any such doubts and ambiguities through positive policy decisions rather than leaving the same for judicial adjudication.

Cartelization

Except in the case of telecom legislation, no other legislation has dealt with the issue of cartelization. The telecom regulator has been specifically debarred from entertaining issues relating to monopolistic, restrictive, and unfair trade practices, all of which are the exclusive jurisdiction of the MRTPC (Monopolies and Restrictive Trade Practices Commission), although, at the same time, the regulator is mandated to facilitate competition. This issue has not been addressed in the electricity legislation, although both central and state electricity regulators are required to promote competition. The roles of the utility regulator and an anti-trust agency like MRTPC need to be clearly defined. In a dynamic market structure, where infrastructure segments witness varying degrees of convergence, there is a need to remove areas of conflict between economic regulators for specific sectors and an umbrella anti-trust agency, to make the market more competitive to avoid delays in market competition. As both agencies have a shared objective, namely promoting competition, their roles and relationship should be complementary and clearly spelt out. For instance, during the formal proceedings of a utility regulator, the anti-trust agency may make submissions or vice versa. In particular, on the issue of merger or complaints against any anti-competitive conduct of firms, both agencies should be involved (Smith 1997a). Further, cross ownership rules in industries should be clearly defined till genuine competition arrives. While the Karnataka Electricity Reform Act, 1999 specifically prohibits a power generating firm to 'engage in the business of sale or supply or transmission of electricity in the state', the OER Act, 1995 does not address this issue. A clear cut rule has to be established on the subject.

Relationship with other regulators

The literature on regulations generally puts all regulations under three categories: (1) economic regulation, which deals with intervention in market decisions such as pricing or entry; (2) social regulation, which seeks to protect such public interests as the environment; and (3) administrative regulation, which deals with government intervention for collecting information and prevailing in individual economic decisions (OECD 1997). Besides defining the role of the regulators in overseeing the market decisions, economic regulation should also clearly define the regulator's role in such non-economic areas as safety, conservancy, and environment, which are the subject matter of social regulation. The regulators under these categories should have clear jurisdiction if more than one agency is involved in regulating the utilities. For example, the ERC Act, 1998 enjoins upon the CERC to 'associate with the environmental regulatory agencies to develop appropriate policies and procedures for environmental regulation in the power sector'. The CERC's relationship with the environmental regulator, say CPCB (Central Pollution Control Board), should be defined specifically. For instance, if the CPCB in consultation with the CERC prepares the environmental guidelines, and the regulator incorporates the same in the licence conditions of its utility, then the regulator should have jurisdiction to appropriately deal with any violation of the guidelines as a breach of licence conditions.

Multi-industry regulator

India's infrastructure regulations are industry specific. With rapid advances in technology, traditional boundaries between industries are getting indistinct. For example, with the convergence of technology, broadcasting and telecommunication services are merging. Increasingly, many telecom services can be made available across computer networks, and many broadcast services can be delivered over telecom networks. Further, technological breakthrough and market liberalization are leading the convergence in industries; for example, gas and electricity industries, like in other countries, are expected to cannibalize into each other's markets as power generation in the electricity industry is expected to make increasing use of gas as

input. It is also possible to have a convergence between electricity distribution and telecom. These issues may be explored further, and perhaps a single regulator at the central level, in say the energy sector, covering electricity and gas industries may be considered. At the state level, a single regulator (like the Public Utility Commission of the US) covering electricity, water, etc. may be explored. Also the need to merge proposed regulators in various sectors (upstream, downstream, and natural gas) in the oil and gas industry should be examined in the light of reducing the multiplicity of regulators. The regulators can be merged with that of other industries where convergence is expected shortly.

Consumer issues

Since 'consumer is king' is the new byword of governance, the interests of the consumer have to be protected, and consumers have to be provided with quality service at reasonable costs. The regulatory legislation has recognized this fact and addressed this issue to a certain extent. For instance, the TRAI Act, 1997 empowers the telecom regulator to set a QSS (quality of service standards) and to monitor them. Similarly, the SERCs can do the same under the ERC Act, 1998; and TAMP, under the PL (Amendment) Act, 1997, is empowered to determine the conditions for various port-related services. But these provisions relate mainly to laying down standards and not with monitoring performance or taking corrective action when prescribed standards are not adhered to in all cases.

Of all central regulatory acts in infrastructure sectors, only the telecom sector incorporates a provision for handling complaints from consumers. Section 14(a) of the TRAI Act, 1997, read with TRAI (Amendment) Act 2000, provides for a TDSAT (Telecom Dispute Settlement and Appellate Tribunal) to adjudicate disputes between service providers and groups of consumers. However, a proviso (in respect of TDSAT) says that nothing in section 14(a) (A) shall apply to an individual complaint maintainable before a consumer redressal forum/commission established under the CPA (Consumer Protection Act), 1986. The ERC Act, 1998 and the PL (Amendment) Act, 1997, in contrast, do not contain any provision relating to the regulator's role in handling complaints; the state electricity reforms acts do not deal with

these issues either. As stated earlier, they deal with the setting of standards, and through that mechanism, ensure quality to the consumers.

The regulatory legislation, in its handling of consumer issues, reveals certain anomalies. First, there is no uniform approach to the question of whether the regulation should deal with consumer complaints or not and, if so, whether these complaints can be an individual's or of a group. Second, a consumer or a group of consumers can approach the redressal forum under the CPA, 1986 for a remedy against poor quality infrastructure services. The consumer also has the option to approach the relevant infrastructure regulator. Third, an occasion may arise when these two institutions will have to address a similar complaint filed by a consumer or a group of consumers. Fourth, whereas the consumer forum can award compensation for damages caused by the opposite party, the regulators cannot do so. Fifth, whereas state electricity regulators can incorporate QSS as a part of the licensing conditions and enforce them, other regulators (port or the central electricity regulator) cannot. Finally, there is no mechanism by which the non-fulfilment of QSS by the utilities/service providers will result in automatic compensation to consumers.

In the new regulatory environment, there is a growing expectation that the regulator would be able to fully address the grievances of the consumer by ensuring better services in the infrastructure sectors. Steps to ensure better protection of consumer interests should include the following.

- The regulators should not, as far possible, entertain complaints from individual consumers and should concentrate on complaints from groups of consumers.
- Since a consumer has the option to approach a consumer forum even at the initial stage or a regulator at the appeal stage, a cooperative mechanism between the two institutions should be developed.
- During the hearing process in the consumer forum, the regulator should assist the forum and provide expert advice.
- The regulator should lay down QSS for each utility/service provider after due consultation with various stakeholders and also prescribe the procedure for redressal of grievances in the first instance.

- A mechanism has to be evolved for linking the violation of QSS norms with the compensation to be awarded to the consumers. This may require changes in the legislative provisions.

New areas

During the transition phase, the need for regulatory reforms has been accepted in the infrastructure sector and such reforms in the hydrocarbon and coal sectors are under active consideration of the government. Possibility of private investment in the port sector would necessitate an autonomous regulator in that sector too. Due to the prospects of vertical unbundling of certain urban services, it is time to introduce competition in certain segments of such services. Again, in cities, priority could be given to areas such as water supply. Similarly, in the transport sector, a regulator can be positioned in segments of significant monopoly services, such as the availability of track in the case of railways, or shipping channel in the case of ports, or where the port operators have significant market power, e.g. ground services. Invariably, the positioning of an autonomous regulator should precede the introduction of sectoral restructuring process as in the case of the insurance sector. Whenever the market condition develops in a sector, the character of regulation may change from 'tight-fisted regulation' to 'light-handed regulation'. Further, in segments that have to be currently regulated, there is a need for built-in 'sunset clauses' for the regulatory authority with progressive milestones for introducing competitions.

Task force

Thus far, the government's approach towards regulatory reforms as a subject has not been cohesive. Different ministries have adopted different approaches towards regulatory reforms in their respective sectors. As a result, regulators have adopted regulatory processes that are inconsistent. For instance, whereas the telecom regulator has adopted a consultative mechanism for tariff regulation, the electricity and port regulators have chosen the hearing approach; whereas the telecom regulator had proposed to introduce a telecom ombudsman for dealing with consumer grievances and for ensuring better quality services, the electricity regulator in Orissa is required to lay down the procedure of grievance

redressal within the utility for redressing consumer grievances within a time frame set by the regulator. There is, thus, a need to look into the existing regulatory legislation to bring in a consistent, rational, and comprehensive approach to regulation in the infrastructure sector. It is time that the Government of India constitutes a task force, which should look not only into the sectors where regulation is already in place but also into sectors where regulation may be introduced soon. The task force should (a) review the existing regulatory legislation and formulate the government's views on each aspect of regulation such as scope, autonomy, and accountability; (b) identify sectors where regulatory reforms are required and spell out the process for restructuring that sector; (c) examine whether, because of the merger of technologies, there is a need to integrate regulators such as gas and electricity, as in UK, or broadcasting and telecom; and (d) suggest the mechanisms for providing platforms for dealing with overlapping issues covering the centre and the states, and between different regulators.

Overarching legislation

On the basis of the recommendations of the task force on the generic features of a statutory regulation, the Government of India should consider enacting an overarching regulatory legislation applicable to various infrastructure sectors after incorporating these features. The sector-specific differences should be covered through subordinate legislation. The overarching legislation should contain the following provisions.

- 1 The core functions of a regulatory authority should include handling technical issues, adjudicating disputed matters, protecting consumer interests, and enforcing the licence regulations. Second, the regulator should be allowed to recommend to the policy makers some measures related to issues such as determining the terms and conditions of licences, and the modification of these terms, if not actually allowed to issue the licences. Third, the regulator should advise the government on regulatory issues.
- 2 Members of the regulatory body should be selected through a transparent process: preliminary receipt of applications through an open advertisement, scrutiny and preparation of a panel of names by a committee, and the appointment of regulators by the executive.

- 3 The qualifying and disqualifying criteria for selection of the members of a regulatory authority should be laid down. Commercial appointment of members after completion of their tenure in the authority should be prohibited.
- 4 Members of a regulatory authority should have a fixed and staggered tenure, and be eligible for reappointment through a selection process along with other candidates.
- 5 The tenure as well as upper age limit for all members including the chairperson in the regulatory authority should be the same.
- 6 In the event of a regulator being required to be removed from the office on stated grounds the process of such removal should be transparent. Whereas the government should have the authority to remove a regulator, it should do so on advice from an independent body such as the Supreme Court / Union Public Service Commission for central regulators and high court / state public service commission for state regulators.
- 7 The autonomous regulators should be free to hire the best experts of their choice.
- 8 There should be a regulatory fund for each regulatory authority.
- 9 There should be demarcation of the areas where the regulation should follow the hearing process for decision-making, and these should be restricted to areas where the decision of the regulator requires imposition of a penalty or involves an award in favour of one party. In other cases, the consultative processes should be encouraged.
- 10 It should be possible to appeal to an independent body against the decisions of the regulatory authority on questions of law, or on whether the regulator has violated the regulatory process, or whether the authority's jurisdiction has been exceeded. In case of proven misconduct, the regulator must be removed from the office.
- 11 There should be a legislative scrutiny of the regulator's activities, as well as external scrutiny by the CAG, of the regulator's accounts and expenses. But, the CAG should not have the power to scrutinize the mandatory functions of the regulator.
- 12 A regulator, being a quasi-judicial body, should have all the powers under Chapter XXVI of the Code of Criminal Procedure, 1973.

- 13 The authority should have adequate powers to call for information and conduct investigation during the regulatory process.
- 14 In sectors where jurisdiction of the centre and the states overlap, the role of the regulators should be well defined. The overlapping areas of operation should be identified and not left open to alternative interpretations.
- 15 The policy directives to a regulator should conform to the objectives of the relevant regulatory legislation, and these should relate only to policy and not to administrative and technical matters. Whenever the government decides to issue policy directives to regulators, it should invariably consult the regulators. Also, the directives issued and the reasons behind them should be made public.
- 16 The roles of the utility regulator and an anti-trust agency like MRTPC in promoting competition in the industry should be clearly defined and their relationship should be complementary.
- 17 Besides defining the role of the regulators in overseeing the market decisions, economic regulations should also clearly define the regulator's role in non-economic areas such as safety, conservation, and the environment, which are the subject matter of social regulation.
- 18 The regulator's role in protecting consumers and in entertaining complaints should be clearly laid down. Whenever the QSS is laid down, its violation should entail automatic payment of compensation by the service providers to their consumers.

Start-up strategy

A regulator must have an initial strategy for setting tariffs, which is the key responsibility and requires utmost attention. Normally, a regulator starts the tariff review process with limited sectoral and corporate data, and even the most arcane rules and data requirements end up fiercely contested. There is a need to mitigate this information asymmetry: it could be resolved through negotiation or appropriate legislation. In fact, rules, data, or methodologies should be well conceived as this would help avoid time-consuming disputes or contract renegotiations. In addition, the priority of the regulator in discharging its multifarious functions has to be decided. For instance, if tariff increases are inevitable, can it be linked to

the quality improvement? This will definitely improve regulatory credibility, and probably better compliance.

Training

Training of regulators and various stakeholders, such as the regulated agencies, consumers groups, government officials, and political executives, in the basics of regulation and regulatory issues is a must. First, since the effectiveness of the new regulation is contingent on major changes in the role of the existing policy makers, orientation of the policy makers to the new regulatory environment is essential. Second, regulation as a subject is new to India and, therefore, the basics of regulation have to be understood for the successful implementation of the regulatory process. Third, stakeholders have to understand and equip themselves to the fast-changing technological environment. Thus, a typical training strategy should cater to the needs not only of the producers, but also of the consumers and other stakeholders like the government. Also, the regulators would have to be trained in the use of the tools of regulation and acquainted with the rapid technological advancement in the infrastructure sectors. The need for 'restrained exercise' of the regulatory community must be known through suitable training. Orientation of judiciary and the labour force to the new type of governance is also required. In fact, given the inter-sectoral form of India's labour legislation, no single sector can be expected to effectively deal with the labour problem, and there should be an inter-sectoral training programme sensitizing them to the regulatory governance.

Research on regulation

Regulatory commissions will have to do a fine balancing act to secure financial viability of the industry on one hand and to protect the interests of consumers on the other. They will require research support and advice to undertake and successfully solve complex technical, legal, and economic problems. There is a need to track developments in the regulatory structures at the international level and facilitate a discussion on the relevant aspects by ensuring wide information dissemination. This implies continued basic as well as applied research on various regulatory issues. The government should also strengthen a few select institutes for this purpose.

Communicating legitimacy

Without regulatory legitimacy, a regulator is unlikely to perform the core functions effectively. Consent of such legitimacy by the executive, judiciary, and public in general is critical for regulatory efficacy. In the early 1990s, there was widespread suspicion that the telecom and electricity regulators in the UK were too lenient on the companies they regulated (Green 1999). The communication strategy has to be developed by each regulator at the very beginning of the regulatory process. The regulator must not only take decisions in a transparent manner, but must also be seen to make them before the public. Legitimacy should also be maintained through communicative process by direct interaction with stakeholders as well as through the media.

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Annexe A Summary of recommendations

Scope of regulation

Although regulation is essentially a means of preventing the excesses of monopoly, it is not a substitute for competition. It is a surrogate for competition, and is a means of holding the fort until competition arrives. Therefore, the segments which are currently subjected to tight-fisted regulation may require light-handed regulation with the progressive arrival of competition in the segment.

In segments that are being currently regulated, there is a need to build in 'sunset clauses' for the regulatory authority with progressive milestones for introducing competition.

A regulatory authority should have three distinct functions: core functions such as tariff regulation; recommendatory functions such as suggesting the terms and conditions of licence; and advisory functions such as counselling the ministry on issues of importance.

Besides defining the role of the regulators in overseeing the market decisions, the economic regulations should also clearly define the regulator's role in such non-economic areas as safety, conservancy, and environment, which are the subject matter of social regulation. The regulators under these different types of regulations should have clear jurisdiction if more than one agency is involved in regulating the utilities.

Autonomy

The specifics of stakeholders and political dynamics may reveal the preferred structure regarding the constitution of a regulatory authority such as whether it would be a single member body or a multi-member commission. In a multi-member commission, it should have odd numbers preferably not exceeding five members.

The independence of a regulator cannot be absolute. A regulator will be subject to the laws of the land and the policy of the government. However, its autonomy has to be guaranteed by law. Parameters such as transparent selection process, well laid-out qualifying and disqualifying criteria, a prescribed tenure, capability of the regulator to access expertise without seeking the government's approval, authority to incur

expenditure without the government's approval, and criteria for removal have to be clearly laid down in the legislation.

Selection of the members of a regulatory body has to be made through specific steps, e.g. a preliminary receipt of applications through open advertisement, scrutiny of the applications, preparation of a panel of names by a committee, and the appointment of the regulator by the executive.

The qualifications for selecting the members of a regulatory authority should include sufficient experience in economics, finance, law, administration, or industry. In a multi-member authority, not more than one member should be drawn from any one category.

Criteria for disqualification should include an interest in the regulated firms, to avoid a conflict of interests between the regulator and the stakeholders.

Commercial employment in the relevant industry should be prohibited once a regulator completes his or her tenure in the regulatory authority. But the period of such restriction should be for a minimum period, as the industry will benefit from former regulators to help them understand regulatory policies and comply with regulation more effectively.

Members of a regulatory authority should enjoy fixed but staggered tenures.

As the expertise gained over a period of the tenure in the authority could be effectively utilized further, it is suggested that members could be made eligible for reappointment through the prescribed selection process along with other candidates.

There should not be any distinction between members and the chairperson as regards the age limit.

In the event of a regulator being required to be removed from office on stated grounds, the process of such removal should be transparent. While the government should have the authority to remove a regulator, it should do so only on advice from an independent authority such as the Supreme Court / Union Public Service Commission in the case of a central regulator and high court / state public service commission in case of a state regulator.

The autonomous regulators should not have any constraints in hiring the best experts of their choice. The salary structure of such staff should be determined by the regulator in order to attract the best expertise.

There should be a 'Regulatory Fund' for each regulatory authority. The source of the fund can be grants from the government in the initial stage and fees thereafter. There should be a cap on the levy fees, which may be fixed by the government.

There should be no provision to supersede a regulator; where there is such provision, it should be deleted.

Accountability

The regulatory process must be transparent and the law should contain provisions to ensure accountability, e.g. the stakeholders must be given the opportunity to present their views; the regulatory decisions must be published, and the reasons for such decisions clearly stated; and it should be possible to appeal against the regulator's decisions.

Decision-making through hearings should include those where the decision of the regulator involves imposition of a penalty or involves an award in favour of one party and is therefore judicable. In other cases, the consultative processes should be encouraged.

Any appeal against a decision must be to an independent body and must be on a question of law. There should be a common appellate authority for a group of regulators. Any public interest litigation should lie only in the Supreme Court.

While the annual report on the regulatory activities should be tabled in the legislature, the legislature should refrain from substantive discussions on regulatory decisions.

It must be ensured that external scrutiny by the Comptroller and Auditor General does not extend to substantive regulatory decisions, but be restricted to accounts and expenses incurred by the regulator.

Powers

The regulator should have powers to call for information and conduct investigation associated with the regulatory process.

The regulator should have power to issue directions for the discharge of its functions. And, there should be sufficient punishment for contravention of its directions and orders.

It should have the authority to summon and enforce attendance, require disclosure and production of documents, receive evidence on affidavit, review its decisions etc. for the purpose of its enquiry and proceedings.

In areas where issues are required to be resolved through adjudication, the regulator should be deemed to be a civil court and a quasi-judicial authority, and should enjoy full powers under Chapter XXVI of the Code of Criminal Procedure, 1973.

Relationship among regulators

In sectors such as power, ports, roads, or where the jurisdiction of the centre and the states overlap, role of the regulators should be well defined and should be complementary. The overlapping areas of operation should be identified as far as possible and should be spelt out in the regulation. Various concepts such as a regulatory alliance, cooperation in such shared areas as transmission service, or the use of joint boards on a specific topic may be examined to resolve overlapping issues between the central and state regulators.

In addition, with the emergence of many state regulators, the need for sectoral coordination at the national level should also be considered.

In a dynamic market structure where infrastructure segments witness varying degrees of convergence there is a need to remove areas of conflict between economic regulators for specific sectors like gas and electricity. There is also scope for conflict between sector-specific regulators and umbrella regulators like the anti-trust agency which needs to be removed. As all are expert bodies with a shared objective, namely promoting competition, their roles and relationship should be complementary and clearly spelt out. Further, cross ownership rules in industries should be clearly defined till genuine competition arrives.

Regulator and government

Policy direction to a regulator by the government should conform to the objectives of the relevant regulatory legislation. These directions should not relate to administrative and technical matters but only to policy matters. It would be inadvisable to leave it to a non-judicial entity like the Central Electricity Authority to decide whether a directive is a policy matter or not, and this provision in the existing laws should be deleted. While governments can issue policy directions, they must invariably consult the regulators before such directives are issued. It is equally important that the directives issued, and the reasons behind them, are made public.

Multi-industry regulator

A single regulator at the central level, say, in the energy sector, covering electricity and gas industries may be considered. At the state level, a single multi-utility regulator covering electricity, water, etc. may be explored.

Task force

The Government of India should constitute a task force, which should not only look into the sectors where regulation is already in place but also into sectors where regulation may be introduced soon. It should (a) review the existing regulatory laws and formulate the government's views on each aspect of regulation such as scope, autonomy, accountability, and power; (b) identify sectors where regulatory reforms are required and spell out process for restructuring the sector; (c) examine the need for integration of regulators in view of convergence; and (d) suggest the mechanisms for providing platforms for dealing with overlapping issues covering the centre and the states and between different regulators.

Overarching legislation

On the basis of the recommendations of the task force on the generic features of a statutory regulation, the Government of India should consider enacting an overarching regulatory legislation applicable to various infrastructure sectors after incorporating these features. The sector-specific differences should be covered through subordinate legislation. The overarching legislation should contain all issues mentioned above.

General issues

Invariably, the positioning of an autonomous regulator should precede the introduction of sectoral restructuring process as is the case of the insurance sector.

In the new regulatory environment, protection of consumer interests should be ensured. The regulators should not, as far as possible, entertain complaints from individual consumers and should concentrate on complaints from groups of consumers. Since a consumer has the option to approach a regulator or a consumer forum even at the initial stage, a cooperative mechanism between the two institutions should be developed. During the hearing process in the consumer

forum, the regulator should assist the forum and provide expert advice. The regulator should invariably lay down the quality of service standards for each utility/service provider after due consultation with various stakeholders. Further, a mechanism has to be evolved for linking the violation of the quality of service standards norms with the compensation to be awarded to the consumers.

A regulator must have a start-up strategy. Rules, data, or methodologies should be well conceived such that it would help avoid time-consuming disputes or contract renegotiations. In addition, the priority of regulators in discharging their multifarious functions have to be decided.

The training of regulators and various stakeholders such as the regulated agencies, consumers groups, government officials, and political executives in the basics of regulation and regulatory issues is a must. Orientation of judiciary as well as labour to the new type of governance should be encouraged. The government should encourage basic as well as applied research on various regulatory issues. It should also strengthen a few select institutes for this purpose.

Without regulatory legitimacy, a regulator is unlikely to perform the core functions effectively. Legitimacy should also be maintained through communicative process by direct interaction with stakeholders as well as through media interaction. The communication strategy has to be developed by each regulator at the very beginning of the regulatory process.

Annexe B

Comparative provisions under the TRAI (Telecom Regulatory Authority of India) Act, 1997 read with TRAI (Amendment) Act, 2000; Port Laws (Amendment) Act, 1997; and the ERC (Electricity Regulatory Commissions) Act, 1998

		CERC	
		TRAI	TAMP
Subject			
Scope	Establishment of CERC, SERC, for rationalization of electricity tariff; transparent policies regarding subsidies; promotion of efficient and environmentally benign policies and matters therewith and incidental thereto.	Establishment of TRAI, and TDSAT to regulate the telecommunication services, adjudicate disputes, dispose of appeals, protect the interests of service providers and consumers of telecom sector, and promote orderly growth of the telecom sector.	Not specified.
Function	Regulate tariff of central generating companies, interstate transmission tariff, etc.; promote competition, efficiency and economy; advise the government on tariff policy; adjudicate on disputes involving generating companies or transmission utilities; regulate interstate transmission of energy; frame guidelines in matters relating to tariff.	Recommendatory functions ■ Need and timing for introduction of new service providers ■ Terms and conditions of licence ■ Revocation of licence for non-compliance ■ Measures to facilitate competition ■ Technological improvements, type of equipment for use ■ Measures for development of communication technology ■ Efficient management spectrum.	Frame a scale of rates and a statement of conditions under which services can be provided by the port trust or port property can be leased; fix fees for pilotage, hauling, mooring, and other services rendered to vessels.

Annexe B contd...

Annexe B contd...

Subject	TRAI	TAMP	CERC
	Discharging functions ■ Ensure compliance of licence conditions ■ Fix terms and conditions of interconnectivity ■ Ensure technical compatibility and effective interconnection ■ Regulate revenue shares ■ Lay down and monitor standards ■ Ensure effective compliance of universal service obligations ■ Determine rates for telecommunication services.		
Consumer protection	Mandated to lay down services standards and ensure quality of services with a view to protect interests of telecommunication consumers.	No provision.	CAC to advise CERC on protection of consumer interest, and CERC will in turn advise the government on tariff policy which is fair to consumers.
Quality of service	Mandated to monitor the quality of service, inspect the equipment of service providers, issue directions to service providers.	Lay down the conditions under which services would be provided.	CAC to advise the CERC on the standards of performance by utilities and on matters relating to quality provided by the licensee.
Dispute settlement	Has no power to arbitrate settlement. TDSAT is the concerned authority.	No provision.	Arbitrate matters involving generating companies and transmission companies.

Autonomy Finances	TRAI to have a general fund with grants, fees, charges, etc. received by it. Salaries/ expenses to be met from this fund.	To be funded by the government. Budget to be approved.	Expenses to be charged on Consolidated Fund of India. Budget to be approved by the government.
	Can appoint staff and officers as required.	Can appoint staff and officers as required but posts to be created with government approval.	Can appoint Secretary and determine the number, nature, and categories of other staff, but with government approval.
Staffing		Staff salary to be determined by government.	Staff salary to be determined, with the approval of government, by regulations.
	Selection of chairperson/ members to be made by the government.	Selection of chairperson/ members to be made by the government.	Selection of chairperson/ members to be made by the government on the advice of selection committee.
Relationship with government	Members debarred from further employment within 1 year after completion of tenure.	No bar on members seeking further employment after completion of tenure.	Employment within 2 years after completion of tenure.
	No supersession.	Government can supersede the regulatory authority.	No supersession.
	To be bound by directions from the government on questions of policy in the interest of sovereignty and integrity of India, security of state, friendly relations with foreign states, public order, decency, or morality.	To be guided by directions of the government in matters of policy involving public interest, to be given in writing. TAMP may express views before such directions.	To be guided by directions of the government in matters of policy involving public interest, to be given in writing.

Annexe B contd...

Annexe B contd...

Subject	TRAI	TAMP	CERC
Accountability			
Transparency	Transparency provisions exist.	No specific transparency provision exists, but authority's order to be made available in the office of customs and conservator, and open for inspection by anybody without fees.	Transparency provisions exist.
External scrutiny	Annual reports to be submitted to the Parliament for scrutiny.	No provision regarding external scrutiny.	Annual reports to be submitted for Parliament scrutiny.
Audit	Accounts and audit to be certified by the CAG, and be laid before the Parliament. CAG scrutiny outside the mandatory functions of TRAI.	Accounts and expenses subject to audit by the CAG.	Accounts and audit to be certified by the CAG, and to be laid before the Parliament.
Appellate bodies	Direction, decision, or orders of the authority is appealable to TDSAT.	Order of the authority not final, government can vary the same.	Orders of the authority is final, appeal lies in high court.
Removal process	Member can be removed by government. Grounds for removal of members specified.	Authority for removal rests with the government. Grounds for removal of members specified, and includes refusal 'to act or becomes incapable of acting'.	Member can be removed by the government but only on the advice of the Supreme Court. Grounds for removal of members specified.
Powers	No powers under Chapter XXVI of Cr Pc, 1973 Authority to call for information and conduct investigations. Proceeding not judicial. No enforceability of orders as a decree of a civil court. No civil court to have jurisdiction in matters within the purview of TRAI.	No powers. No power to call for information or conduct investigations. Proceeding not judicial. No provision regarding enforceability of its orders.	Restricted to sections 345 and 346 of the Cr Pc, which provide for summary proceedings for contempt. No power to call for information or conduct investigations. Judicial proceeding. Enforceability of orders as a decree of a civil court. No bar over civil courts.
Penal provisions for contravention of order	Cannot impose penalty for non-compliance of orders.	Cannot impose penalty for non-compliance of orders.	For non-compliance of the order, imprisonment up to 3 months, or fine up to Rs 100 000, or both, with an additional fine of Rs 4000 per day for continuous failure after conviction of such offence.
Penal provisions for contravention of directions	Fine up to Rs 100 000; Rs 200 000 for the second and subsequent offence, and additional Rs 200 000 per day for continuous failure.	Cannot impose penalty for non-compliance of directions.	Fine up to Rs 100 000, or both, and with an additional fine of Rs 6000 per day for continuous failure after contravention of first such direction.
Offences by government departments	Strict provisions to deal with such offence.	No provisions to deal with such offence.	No provisions.

Annexe B contd...

Annexe B contd....

Subject	TRAI	TAMP	CERC
Power to make regulations	On all functions, especially procedure on the transaction of business, levy of fees, but not for salary of staff.	On the procedure regarding the transaction of business, and salary.	On all functions, especially duty, etc. of Secretary, procedure on the transaction of business, salary of staff, etc., terms and conditions of consultants, manner for energy charges.

CAG - Comptroller and Auditor General; CAC - Central Advisory Committee; CEA - Central Electricity Authority; CERC - Central Electricity Regulatory Commission; Cr PC - Code of Criminal Procedure; ERC - Electricity Regulatory Commission; SERC - state electricity regulatory commission; TAMP - Tariff Authority for Major Ports; TDSAT - Telecom Dispute Settlement and Appellate Tribunal; TRAI - Telecom Regulatory Authority of India

Annexe C

Comparative provisions under the ERC (Electricity Regulatory Commissions) Act, 1998 and the OER (Orissa Electricity Reform) Act, 1995

SERC as per ERC Act, 1998		OERC as per OER Act, 1995
Subject	Scope	■ Establishment of CERC/SERC for rationalization of electricity tariff ■ Transparent policies regarding subsidies ■ Provision of efficient and environmentally benign policies; and for matters connected with or incidental thereto.
	Functions	■ To provide for the restructuring of the electricity industry ■ For privatization of generation, transmission, distribution, and supply of electricity ■ Avenues for participation of private sector entrepreneurs in the electricity Industry ■ For taking measures conducive to the development and management of the electricity industry in the state in an efficient, economic, and competitive manner. ■ Aid and advise in matters concerning generation, transmission, distribution, and supply of electricity in the state ■ Regulate working of licensees and promote the working in an efficient, economical, and equitable manner ■ Issue licences and determine the conditions ■ Promote efficiency, economy, and safety in the transmission, distribution, and use of electricity with emphasis on quality, continuity, and quality of service

Annexe C contd...

Annexe C contd...

Subject	SERC as per ERC Act, 1998	OERC as per OER Act, 1995
	State government may by notification delegate the SERC to	
	■ Regulate the investment approval in electricity industry	■ Regulate the purchase, distribution, supply, and utilization of electricity, quality of service, tariff, and charges payable, keeping in view both the interest of consumer and the consideration that supply and distribution cannot be maintained unless the charges for electricity supplied are reasonably levied and duly collected
	■ Aid/advise the government in matters relating to electricity activities	■ Promote competition, and progressively involve the participation of private sector, while ensuring a fair deal to consumers
	■ Regulate the operation of power system in the state ■ Issue licences for transmission, bulk supply, etc. and determine the condition therein	■ Collect data and forecast on demand for use of electricity, including constitution of an electricity regulatory commission for the state, etc.
	■ Regulate the working of the licensee, and promote the working in an efficient, economical, and equitable manner	■ Get licensees to formulate perspective plans and schemes.
	■ Set standards of electric supply	
	■ Promote competitiveness and make avenues for participation of private sector and also to ensure a fair deal to the customers	
	■ Lay down and enforce safety standard	
	■ Collect and record information concerning the generation, distribution and utilization of electricity	
	■ Collect and publish data and forecast on the demand for and use of electricity in the state and require the licensees to collect/publish the data	
	■ Regulate the exit/entry in the industry, safeguard public interests	
	■ Adjudicate dispute/differences between the licensees and utilities and refer them to arbitration	

- Coordinate with environmental regulatory agencies, and evolve policies and procedures for appropriate environmental regulation of the electricity sector
- Aid/advise the government on matters referred to by government.

SAC to advise SERC on the protection of consumer interest. Upon conferment by the state government, SERC to ensure a fair deal to consumers. SERC to authorize persons to represent the consumer rights before its proceedings.

SAC to advise SERC on the quality of services. Upon conferment of powers by the government, SERC can set quality of services.

Upon delegation by the state government SERC can arbitrate disputes/differences between the licensee and utilities, and can refer them to arbitration.

Autonomy Finances

Budgets to be approved by the government

Can appoint Secretary, determine the number, nature, and categories of other staff, but with government approval

Staff salary to be determined, with the approval of government by regulations.

Limited commitment with regard to 'interests of consumers' in the context of tariff determination.

CAC to advise OERC on the quality of services. OERC to determine the standards of overall performance.

Arbitrate disputes/differences between the licensees, and can refer them to arbitration.

Expenses to be charged to the consolidated fund of the state.

Can appoint Secretary, determine the number, nature, and categories of other staff, but with government approval.

Staff salary to be charged to the consolidated fund of the state.

Annexe C contd...

Subject	SERC as per ERC Act, 1998	OERC as per OER Act, 1995
Relationship with the government	Selection of chairperson/member to be made by government on the advice of a selection committee	Selection of chairperson/member to be made by government on the advice of a selection committee.
	Employment within 2 years after completion of service.	No employment after completion of tenure.
	SERC to be guided by directions of government in matters of policy involving public interest, to be given in writing. SERC cannot express views before such directions.	OERC guided by policy directions of the government. Any dispute in the regard to be referred to CEA, whose decision is final.
Accountability Transparency	Transparency provision exists.	Provision for advisory committee, consumer consultations, disclosure of information exists. Proceedings transparent.
	Annual reports for scrutiny by the legislature.	Annual reports for scrutiny by the legislature.
External scrutiny Audit	Accounts and audit to be certified by the CAG and to be laid before the legislature.	Accounts and audit to be certified by CAG and to be laid before the legislature.
	Orders of the commission are final, appeal lies in high court.	Orders of the commission is final, appeal lies in high court.
Appellate bodies Removal process	Members can be removed by government, but only with the advice of the high court.	Members can be removed by government, but only with the advice of the high court.
	Grounds for removal well specified.	Grounds for removal well specified.

Powers	Restricted to sections 345 and 346 of Cr Pc, which provide for summary proceedings for contempt. Other powers under Chapter XXVI of Cr Pc have not been given.	Full powers under section 195 of Cr Pc, to prosecute for contempt of the lawful authority of public servants, for offences against public justice, and for offences relating to documents given as evidence. Full powers under Chapter XXVI of Cr Pc in regard to offences affecting the administration of justice which include powers to order costs, summary trial for giving false evidence, to deal with cases of contempt, order imprisonment, or committal for refusing to answer or produce documents, etc.
	No power to call for information, conduct investigations, etc.	Power to call for information and conduct investigations.
	Judicial proceedings.	Judicial proceedings.
	Enforceability of order as a decree of a civil court. No bar over civil courts.	Enforceability of order as a decree of a civil court. No bar over civil courts.
Penal provisions for contravention of orders	For non-compliance with the order, imprisonment up to 3 months, or fine up to Rs 100 000, or both, and with an additional fine of Rs 4000 per day for continuous failure after conviction of such offence.	Can be determined by regulations.
Penal provisions for	Fine up to Rs 100 000, or both, and with an additional fine of Rs 6000 per day for continuous failure after contravention of first such direction.	Can be determined by regulations.

Annexe C contd...

Subject	SERC as per ERC Act, 1998	OERC as per OER Act, 1995
Power to make regulation	On all functions, especially duty, etc., of Secretary, procedure on transactions of business, salary of staff, etc., terms and conditions of consultants, manner for energy charges.	On all functions, especially d, transactions, of business, proc licences, etc., in information de revenue, tariff fixation

CAG - Comptroller and Auditor General; CAC - Commission Advisory Committee; CEA - Central Electricity Autho
OERC - Orissa Electricity Regulatory Commission; SAC - State Advisory Committee; SERC - state electricity regul-

About TERI

A dynamic and flexible organization with a global vision and a local focus, TERI was established in 1974. While in the initial period the focus was mainly on documentation and information dissemination activities, research activities in the fields of energy, environment, and sustainable development were initiated towards the end of 1982. The genesis of these activities lay in TERI's firm belief that efficient utilization of energy, sustainable use of natural resources, large-scale adoption of renewable energy technologies, and reduction of all forms of waste would move the process of development towards the goal of sustainability.

A unique developing-country institution, TERI is deeply committed to every aspect of sustainable development. From providing environment-friendly solutions to rural energy problems to helping shape the development of the Indian oil and gas sector; from tackling global climate change issues across many continents to enhancing forest conservation efforts among local communities; from advancing solutions to growing urban transport and air pollution problems to promoting energy efficiency in the Indian industry, the emphasis has always been on finding innovative solutions to make the world a better place to live in. However, while TERI's vision is global, its roots are firmly entrenched in Indian soil. All activities in TERI move from formulating local- and national-level strategies to suggesting global solutions to critical energy and environment-related issues. It is with this purpose that TERI has established regional centres in Bangalore, Goa, and Guwahati, and a presence in Germany, Moscow, and Japan. It has also set up affiliate institutes: TERI-NA (Tata Energy and Resources Institute, North America), Washington DC, USA, and TERI-Europe, London, UK.

TERI celebrated its silver jubilee in February 2000. With a staff strength of around 500, drawn from multidisciplinary and highly specialized fields, and offices and regional centres equipped with state-of-the-art facilities, TERI has come a long way in these 25 years. As the Institute has grown in size and reach, so have its activities grown and diversified, and TERI is now the largest developing-country institution working to move human society towards a sustainable future. And, well on its way to becoming a cybercorp, it makes effective use of the latest developments in modern information technology in both its in-house and outreach activities.

Today, TERI is poised for future growth, driven by a global vision and outreach, with a philosophy that emphasizes and assigns primacy to enterprise in government, industry, and individual actions.